ISO Accreditation for ATC's Transducer Calibration Lab

From left, Bill Burget, Ken McMullen, Scott Walton, and Colonel Ellis pose in front of ATC's Transducer Calibration Laboratory

Measuring the pressure inside large-caliber cannons has been a goal since Aberdeen Proving Ground was established in 1917. This is an essential part of the weapons testing mission that the Army moved from Sandy Hook, New Jersey.

The Transducer Calibration Laboratory (TCL) at ATC is responsible for ensuring that the electrical and mechanical devices used to measure chamber pressure are traceable back to the U.S. National Institute of Standards and Technology. Measurements of weapon chamber pressure are critical for determining both the safety and combat effectiveness of a weapon. Any error in chamber pressure measurement can be magnified into larger errors in the parameters that determine the safety and combat effectiveness of a weapon, such as effective firing range, gun tube fatigue life, and weapon weight.

The U.S. Army Test Measurement and Diagnostic Equipment (TMDE) Support Center at Aberdeen did not have calibration instruments to operate at the 100,000-psi levels found in tank guns. Daryl Williams of TMDE began the effort to obtain ISO accreditation for the APG calibration activities. "My organization became the first secondary transfer level laboratory to be ISO Guide 25 accredited in the USA," said Williams.

With the help of Williams, ATC's TCL applied for and obtained a waiver to calibrate pressure transducers up to 145,000-psi. The accreditation process began formally when Ronald Lilly of the U.S. Army Solider and Biological

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Chemical Command (SBCCOM) conducted an initial 'gap analysis' to determine what steps were necessary for the TCL to obtain accreditation. The effort to obtain ISO accreditation for the TCL were initiated by Ken McMullen, George Jack, Bill Burget, and Scott Walton of ATC. "A quality system was established, and documented with a manual that describes the operations, procedures, and quality assurance steps used for pressure transducer calibration at the TCL," said Walton. After making changes and improvements in the quality management system, an internal audit of the TCL was conducted by ATC's Quality Management Team, led by George Jack.

After improvements suggested in the internal audit were implemented, a formal assessment of the TCL was conducted by Robert Miller of SBCCOM. Further improvements were implemented as a result of that assessment. Then the TCL was ready for a 'third party audit' by an auditor from the American Association of Laboratory Accreditation (A2LA). The A2LA review process was completed on December 15, 1999, and the TCL received a scope of accreditation for calibration of pressure transducers up to 145,000-psi. "This gives our calibration increased credibility, and gives our customers the assurance that we have taken extra effort to make sure that the measurement used to make the critical compromise between combat effectiveness and crew safety as accurate as possible," said Walton.

On January 24, 2000, Colonel Andrew G. Ellis, ATC Commander, presented Williams and Lilly ATC Coins in appreciation of their assistance in the ISO accreditation of the TCL. Ellis then presented McMullen and Burget the accreditation certificate and an ISO flag to post on the Transducer Calibration Laboratory at ATC.

Ellis said, "I am proud to present this ISO flag to the Transducer Calibration Laboratory, as the first ATC element to receive ISO accreditation. Currently, other groups at ATC are working to obtain accreditation and I hope to be putting up another ISO flag soon."

Article was provided by Phyllis J. DeFranks, ATC Public Affairs Office.